The goal of this work is to develop and implement a desing for the most appropriate method allowing autonomous landing of the quadrocopter on a heliport with a visible pattern. This work includes an analysis dedicated to finding the best pattern for the designated landing area and the most reliable way to identify this pattern in an image taken from the camera of quadrocopter. The work explains the different ways of controlling devices as dynamic systems and implements algorithms for navigation of the quadrocopter to the target. The achieved results are verified by documented experiments.